DSDC
DLA'S Central Design Activity

Project

Management

Presented by: DSDC
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Description and Objectives

Description: This course provides an overview of project management activities on DLA software development projects.

Objectives:

1. Identify types of projects within DoD
2. Review the components of the Software Development Plan (SDP)
3. Define Software Quality Assurance (SQA) and its purpose
4. Define Software Configuration Management (SCM) and its benefits
5. Identify the correlation between MIL-STD-498, the CMM, and DLA Project Management

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DoD 5000

AIS Program			
THRESHOLDS	ACAT III (Non-Major)	ACAT IAC (Major)	ACAT IAM (Major)
Single Year Costs	< $1M	< $1M	< $30M
Total Program Costs	< $5M	< $5M	< $120M
Life Cycle Costs	< $15M	< $15M	< $360M

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Project Definition

- √ Software Development
- √ Project Categories
  - √ Expense Enhancements
  - √ Capital Enhancements
  - √ New Development

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Software Development Plan

√ The collection of plans that describe the activities to be performed for the software project. It governs the management of the activities performed by the software engineering group for the software project. [CMU/SEI]

√ MIL-STD-498 Data Item Description (DID) as tailored by guidance.

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Software Development Plan Procedure

STEP	ACTION	PERFORMED BY	REFERENCE
1	Review allocated Requirements to insure that they are : a. Feasible and appropriate for software implementation b. Clearly and properly state c. Consistent with all the requirements d. Testable e. Complete f. Assessed for potential problems	project team	
2	Based on the step 1 review, if any of the allocated requirements have potential problems, review them with the group responsible for analyzing and allocating the requirements. Repeat steps 1 and 2 until a baselined requirement has been signed by the customer and DSDC.	Project team	

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Software Development Plan Procedure

STEP	ACTION	PERFORMED BY	REFERENCE
3	Begin preparing the Project Summary for expense enhancements or the Detailed Project Summary by completing as many of the selections as possible. In particular, on the Detailed Project Summary, document the project's scope; purpose, goals, and objectives; general assumptions; management concept; and development approach (life cycle). As the following steps are completed, update the Project Summary as necessary to indicate whether or not the particular plan or artifact is required.	project team	Encl 2.1, 2.2

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Software Development Plan Procedure

STEP	ACTION	PERFORMED BY	REFERENCE
4	Determine the needs for software engineering facilities and support tools. If needed, develop/update a plan for acquiring/developing the facilities/tools and document the responsibilities and commitments for accomplishing it. This plan shall address availability of licensing and maintenance of commercial development and run-time tools and software, and, if appropriate, a proposed acquisition strategy for renewals of minimum commercial licensing and maintenance requirements of the tools/ software and their documentation and training.	PM in consult-ation with DSDC-T Systems Support and/or acquisition personnel	

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Software Development Plan Procedure

STEP	ACTION	PERFORMED BY	REFERENCE
5	Perform a Software Risk Evaluation (SRE) IAW the Risk Management Procedure .	Project team, risk management super-visor from DSDC-R	Encl. 16

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Software Development Plan Procedure

STEP	ACTION	PERFORMED BY	REFERENCE
6	Develop/tailor the project WBS IAW information contained in the WBS guidance.	project team	Encl. 2.4
7	Develop/update and document an estimation for size IAW the size estimation procedure.	PM or designated team member	Encl. 6
8	Develop/update and document an estimation for effort, schedule and cost, based on the size estimation and the WBS , IAW the cost estimation procedure.	PM or designated team member	Encl. 7

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Software Development Plan Procedure

STEP	ACTION	PERFORMED BY	REFERENCE
9	Develop/update the configuration management (CM) plan.	CM administrator	Ref 2
10	Develop/update the software quality assurance (SQA) plan	SQA in consultation with the PM	Ref 3
11	Estimat/update and document critical computer resources IAW the Critical Computer Resources Procedure	performance analyst from DSDC-T, Technology infusion at the request of the PM and with the help of the PM or designated team member.	Encl 8

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Software Development Plan Procedure

STEP	ACTION	PERFORMED BY	REFERENCE
12	Determine if any team members need to have any project-specific training. If so, develop and document a Team Training Plan for acquiring the training.	PM	
13	Review :Security Within the Development Process" to determine security accreditation requirements, and develop/update security documentation, as appropriate	PM or designated team member; Security personnel from DSDC-T	Ref 1, SDP Encl 17

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Software Development Plan Procedure

STEP	ACTION	PERFORMED BY	REFERENCE
14	Develop/update a Test Plan .	PM or designated team member	Ref 1, Software Test Plan (STP) DID
15	Define/update work to be subcontracted. As the development of the SDP proceeds, it will become clear whether or not DSDC will be able to perform all the work required. The steps performed above will have ident-ified all the work that is needed for the project. If work needs to be subcontracted, it should be work which DSDC lacks the expertise to accomplish, or that requires more personnel resources than can be allotted to the project. The work to be subcontracted should be defined in a statement of work for the subcontractor.	acquisition personnel from DSDC-T Technology Infusion At the request of and with the help of the PM	Enc 11.1

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Software Development Plan Procedure

STEP	ACTION	PERFORMED BY	REFERENCE
16	Select subcontractor. A subcontractor should be selected IAW the guidance on the use of existing multi-agency contracts or the Subcontractor Selection Procedure, as applicable. When the contract has been awarded, a COR shall be assigned to the project from the DSDC office of acquisition. A COTR shall also be designated for the project.	Acquisition personnel from DSDC-T Technology Infusion at the request of and with the help of the PM.	Encl 11
17	Incorporate subcontractor data. The selected subcontractor should be asked to produce an SDP, with schedule and cost, which DSDC can roll into its own SDP.	PM, COTR	

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Software Development Plan Procedure

STEP	ACTION	PERFORMED BY	REFERENCE
18	Assemble all the data to form the Software Development Plan (SDP) . A detailed Software Development Plan (as described in the SDP table of contents) is not required for expense enhancements; however, all project documentation will be maintained together (I.e., folder, binder, pc, server, etc.).	PM or designated team member	Encl 2.3
19	Conduct review. Review the SDP plans and estimates for completeness and accuracy. This may be done by peer review or formal inspection. If the SQA Plan calls for an SQA review at this time, the SQA personnel will participate.	project team, SQA (if applicable)	Ref 3, Encl 10

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Software Development Plan Procedure

STEP	ACTION	PERFORMED BY	REFERENCE
20	Incorporate changes suggested by review comments.	project team	
21	Submit SDP for approval as provided in the PMG.	project team	Ref 4, para E.2
22	Revise S		

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Software Development Plan Procedure

STEP	ACTION	PERFORMED BY	REFERENCE
20	Incorporate changes suggested by review comments.	project team	
21	Submit SDP for approval as provided in the PMG.	project team	Ref 4, para E.2
22	Revise SDP. As changes to project planning data (e.g., requirements, sizes of software products, risks and their impacts, critical computer resources, contractor performance, etc.) occur that require updates to the SDP, follow steps 1 through 21 above, as appropriate.	PM or designated team member	

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Project Tracking and Oversight

- √ Reviews
  - √ IPRs
    - √ With Director
    - √ With Customer
  - √ Meetings
    - √ With Product Manager
    - √ With Team

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Project Tracking and Oversight

- √ Minutes and MFRs
  - √ Action Items (Track to Closure)
  - √ Issues
  - √ Unresolved Problems

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Reasons for Rebaselining

- √ Change in Requirements
- √ Schedule/Cost Can No Longer Be Met
- √ Changes Are 10% or More From Baseline Numbers

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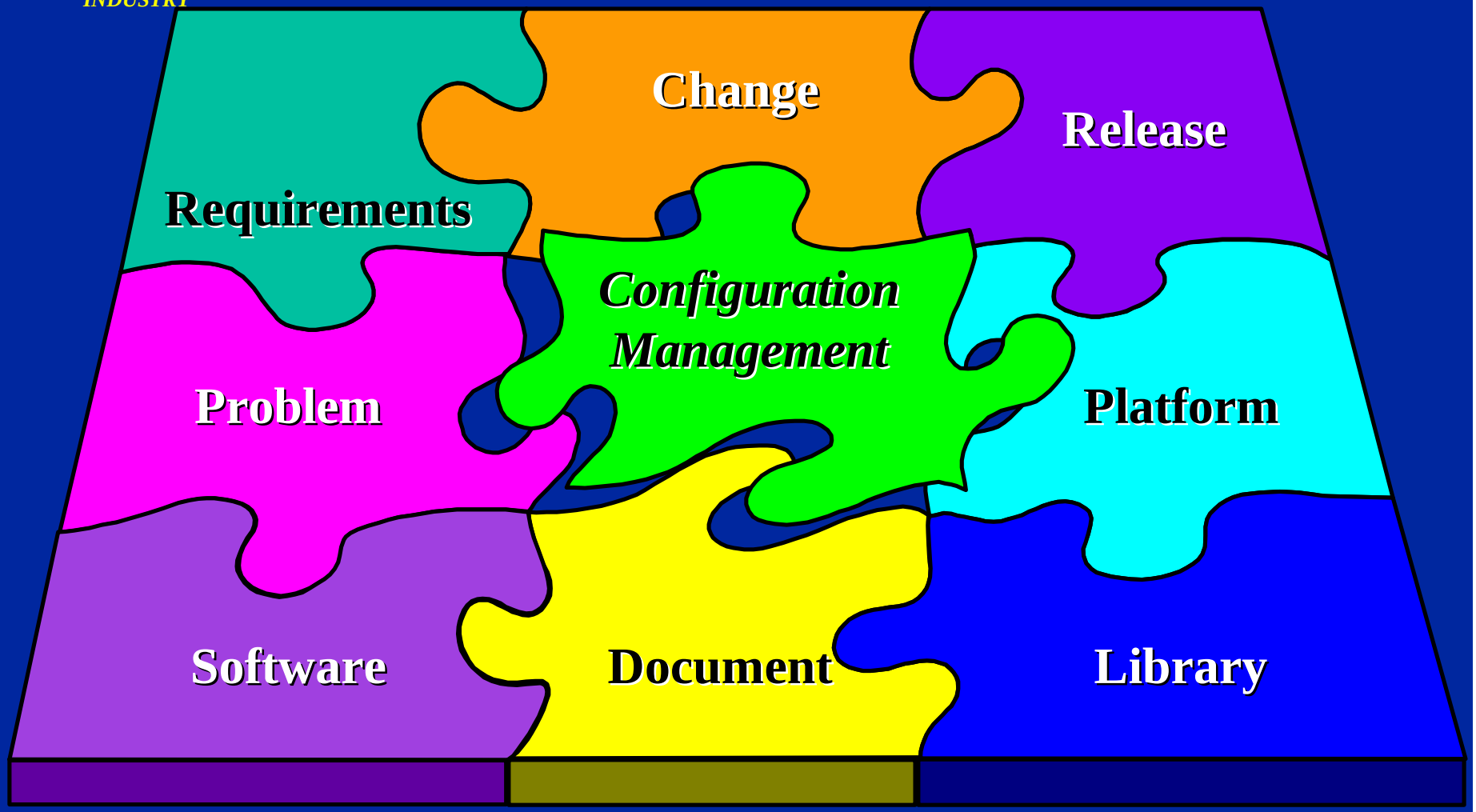
Configuration Management



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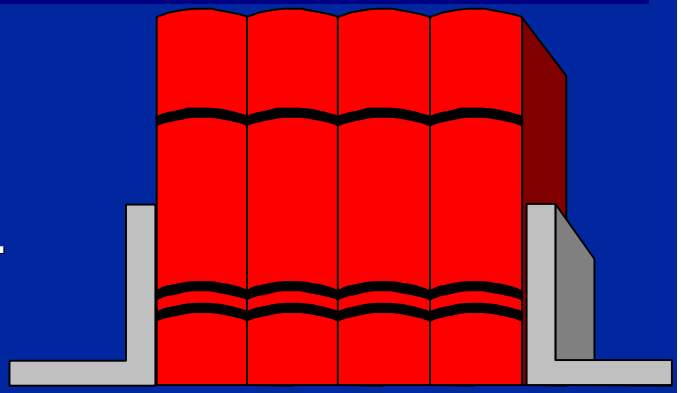
Definition of CM



Simple

CM is the control and management of baselines*.

Industry -IEEE Std 610.12

A discipline applying technical and administrative direction and surveillance to: identify and document the functional and physical characteristics of a configuration item, control changes to those characteristics, record and report change processing and implementation status, and verify compliance with specified requirements.

*** Baseline:** a. A specification or product that has been formally reviewed and agreed upon, that thereafter serves as the basis for further development, and that can be changed only through formal change control procedures.

b. A document or set of such documents formally designated and fixed at a specific time during the life cycle of a configuration item. [IEEE Std 610.12]

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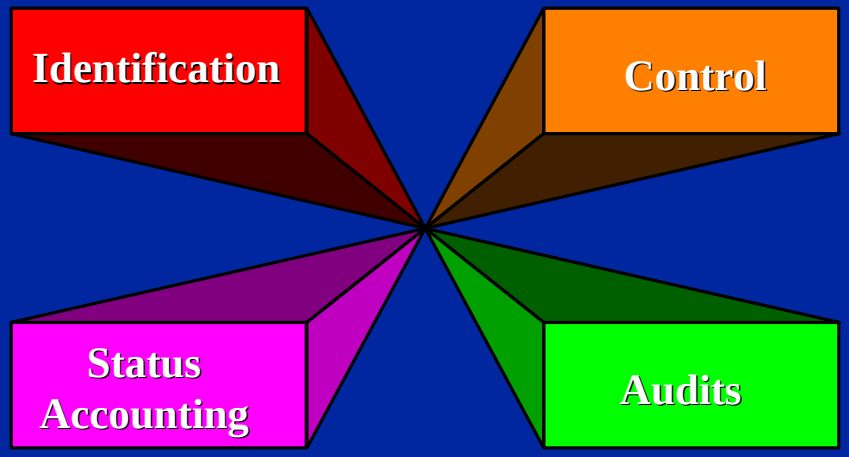
Four Areas of Configuration Management

- √ Configuration Identification
- √ Configuration Control
- √ Configuration Status Accounting
- √ Configuration Audits



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Risks of Not Doing CM

- Not Delivering Product that Meets Customer Requirements
- Projects Over Budget/Not on Time
- No Control of Changes
- No Visibility to Impact of Changes

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How CM Improves the Software Engineering Process

- √ Making changes in an orderly manner
- √ Minimizing disruption to existing users and developers
- √ Ensuring interoperability
- √ Getting documentation and code to agree
- √ Providing an archive for recovery
- √ Providing data for process improvement

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Software Quality Assurance (SQA)

- √ Processes
- √ Products

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What is Software Quality Assurance (SQA)?

√ A planned and systematic pattern of all actions necessary to provide adequate confidence that a software work product conforms to established technical requirements. [CMU/SEI-TR-25]

√ A set of activities designed to evaluate the process by which software work products are developed or maintained. [CMU/SEI-TR-25]

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Benefits of SQA

- √ Provides senior management visibility into the processes being used
- √ Reviews and audits activities and work products to ensure compliance with current guidance and policy
- √ Focuses on deviation tracking
- √ Reports deviations to team and manager
- √ Helps managers resolve deviations & noncompliance issues

"Quality assurance makes the problem visible so the problem (not the blame) can be fixed."

- Sacramento Air Logistics Command

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A Point to Ponder

"The bitterness of Poor Quality remains long after the sweetness of meeting the schedule has been forgotten."

- Quality Assurance Institute